What is claimed is:

1. A method for treating a subject with a neurological disorder, or at risk of developing a neurological disorder comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to, and modify the function of a target protein in the central nervous system, to thereby ameliorate or prevent the onset of a neurological disorder in the subject.

2. The method of claim 1, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

3. The method of claim 1, wherein the disorder is selected from the group consisting of epilepsy, stroke, Alzheimer's, Parkinson's, dementia, Huntington's disease, amyloid lateral sclerosis and depression.

4. The method of claim 1, wherein the neurological disorder is stoke.

5. The method of claim 1, wherein the neurological disorder is epilepsy.

6. The method of claim 1, wherein the vaccine comprises an antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors, and cell surface molecules.

7. The method of claim 6, wherein the antigen is an NMDA receptor.

8. The method of claim 7, wherein the antigen is NMDAR1.

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9. The method of claim 1, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine, or a combination thereof.

10. The method of claim 9, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

11. The method of claim 10, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

12. The method of claim 11, wherein the viral vector is an adeno-associated virus vector.

13. The method of claim 1, wherein the step of administering a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, further comprises administering an antibody, or an antibody portion elicited in a mammal for administration to the subject.

14. The method of claim 1, wherein the isolated antibody, or antibody portion is administered directly to the central nervous system.

15. The method of claim 1, wherein the isolated antibody, or an antibody portion is selected from the group consisting of a monoclonal antibody, a polyclonal antibody, a recombinant antibody, a chimeric antibody, a humanized antibody, an Fab fragment, an $F(ab')_2$ fragment and a single chain Fv fragment.

16. The method of claim 15, wherein the isolated antibody, or antibody portion is selected from the group consisting of an anti-NMDA antibody, an anti-GluR antibody, an anti-NK-1 antibody, an anti-dopamine transporter antibody and anti-glutamic acid decarboxylase antibody.

17. The method of claim 16, wherein the isolated antibody, or an antibody portion is an anti-NMDA antibody.

18. The method of claim 17, wherein the isolated antibody, or an antibody portion is an anti-NMDAR1 antibody.

19. The method of claim 16, wherein the isolated antibody, or antibody portion is an anti-GluR antibody.

20. The method of claim 19, wherein the isolated antibody is an anti-GluR4 antibody.

21. The method of claim 19, wherein the isolated antibody is an anti-GluR6 antibody.

22. A method for modifying the function of a target protein in the central nervous system of a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to, and modify the function of a target protein in the central nervous system, to thereby modify the function of the target protein.

23. The method of claim 22, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

24. The method of claim 22, wherein the target protein is selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell-surface molecules.

25. The method of claim 22, wherein the vaccine comprises an antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

26. The method of claim 25, wherein the antigen is selected from the group consisting of an NMDA receptor, a GluR receptor, an NPY neuropeptide, galanin, an NK-1 receptor, a dopamine transporter and glutamic acid decarboxylase.

27. The method of claim 26, wherein the antigen is an NMDA receptor.

28. The method of claim 27, wherein the antigen is NMDAR1.

29. The method of claim 22, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine, or a combination thereof.

30 The method of claim 29, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

31. The method of claim 30, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

32. The method of claim 31, wherein the viral vector is an adeno-associated virus vector.

33. The method of claim 22, wherein the step of administering a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, further comprises administering an antibody, or an antibody portion elicited in a mammal for administration to the subject.

34. The method of claim 22, wherein the isolated antibody, or antibody portion is administered directly to the central nervous system.

35. The method of claim 22, wherein the isolated antibody, or an antibody portion is selected from the group consisting of a monoclonal antibody, a polyclonal antibody, a recombinant antibody, a chimeric antibody, a humanized antibody, an Fab fragment, an $F(ab')_2$ fragment and a single chain Fv fragment.

36. A method for improving cognition in a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies binds to, and modify the function of a target protein in the central nervous system, to thereby improve cognition of a subject.

37. The method of claim 36, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

38. The method of claim 36, wherein the vaccine comprises an antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

39. The method of claim 38, wherein the antigen is an NMDA receptor.

40. The method of claim 39, wherein the antigen is NMDAR1.

41. The method of claim 36, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine, or a combination thereof.

42. The method of claim 41, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

43. The method of claim 42, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

44. The method of claim 43, wherein the viral vector is an adeno-associated virus vector.

45. The method of claim 36, wherein the target protein is selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors and transcription factors.

46. The method of claim 45, wherein the target protein is an NMDA receptor.

47. The method of claim 36, wherein the antibody binds to the NMDA receptor and upregulates NMDA receptor expression.

48. The method of claim 36, wherein the antibody binds to the NMDA receptor and decreases Krox-24 expression.

49. The method of claim 36, wherein the step of administering a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, further comprises administering an antibody, or an antibody portion elicited in a mammal for administration to the subject.

50. The method of claim 36, wherein the isolated antibody, or antigen binding portion is administered directly to the central nervous system.

51. The method of claim 36, wherein the isolated antibody, or an antibody portion is selected from the group consisting of a monoclonal antibody, a polyclonal antibody, a recombinant antibody, a chimeric antibody, a humanized antibody, an Fab fragment, an $F(ab')_2$ fragment and a single chain Fv fragment.

52. The method of claim 51, wherein the isolated antibody, or an antibody portion is an anti-NMDA antibody.

53. The method of claim 52, wherein the isolated antibody, or an antibody portion is an anti-NMDAR1 antibody.

54. A method for treating a subject with a neuroendocrine disorder, or at the risk of developing a neuroendocrine disorder comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen to a subject, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to, and modifies the function of a target protein in the central nervous system, to thereby ameliorate the neuroendocrine disorder, or to prevent the onset of the neuroendocrine disorder in the subject.

55. The method of claim 54, wherein the neuroendocrine disorder is obesity.

56. The method of claim 54, wherein the antigen is selected from the group consisting of neuropeptide-Y (NPY), galanin, cocaine-and amphetamine-regulated transcript (CART), orexin, thyrotropin - releasing hormone (TRH), leptan, corticotropin - releasing hormone (CRH) and pro-opiomelanocortin (POMC).

57. The method of claim 56, wherein the antigen is neuropeptide Y.

58. The method of claim 56, wherein the antigen is galanin.

59. The method of claim 54, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine, or a combination thereof.

60. The method of claim 59, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

61. The method of claim 60, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

62. The method of claim 54, wherein the step of administering a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, further comprises administering an antibody, or an antibody portion elicited in a mammal for administration to the subject.

63. The method of claim 54, wherein the isolated antibody, or antibody portion is administered directly to the central nervous system.

64. The method of claim 54, wherein the isolated antibody, or an antibody portion is selected from the group consisting of a monoclonal antibody, a polyclonal antibody, a recombinant antibody, a chimeric antibody, a humanized antibody, an Fab fragment, an $F(ab')_2$ fragment and a single chain Fv fragment.

65. The method of claim 64, wherein the antibody is selected from the group consisting of anti-NPY antibody, anti-galanin antibody, anti-CART antibody, anti-orexin antibody, anti-TRH antibody, anti-leptan antibody, anti-CRH antibody, and anti-POMC antibody.

66. The method of claim 65, wherein the antibody is an anti-NPY antibody.

67. The method of claim 65, wherein the antibody is an anti-galanin antibody.

68. The method of claim 54, wherein the target protein is selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

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69. The method of claim 68, wherein the target protein is selected from the group consisting of NPY neuropeptide and galanin.

70. A pharmaceutical composition comprising a therapeutically effective amount of an antigen capable of eliciting the production of antibodies in the circulatory system of the subject, or a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to, and modify the function of a target protein in the central nervous system.

71. The pharmaceutical composition of claim 70, wherein antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

72. The pharmaceutical composition of claim 71, wherein the antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

73. The pharmaceutical composition of claim 72, wherein the antigen is an NMDA receptor.

74. The pharmaceutical composition of claim 73, wherein the antigen is NMDAR1.

75. The pharmaceutical composition of claim 70, wherein the target protein is selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors and transcription factors.

76. The pharmaceutical composition of claim 75, wherein the target protein is an NMDA receptor.

77. The pharmaceutical composition of claim 70, wherein the isolated antibody, or an antibody portion, are elicited in a mammal for administration to a subject.

78. The pharmaceutical composition of claim 70, wherein the isolated antibody, or antigen binding portion is administered directly to the central nervous system.

79. The method of claim 70, wherein the isolated antibody, or an antibody portion is selected from the group consisting of a monoclonal antibody, a polyclonal antibody, a recombinant antibody, a chimeric antibody, a humanized antibody, an Fab fragment, an $F(ab')_2$ fragment and a single chain Fv fragment.

80. The method of claim 79, wherein the isolated antibody, or an antibody portion is an anti-NMDA antibody.

81. The method of claim 80, wherein the isolated antibody, or an antibody portion is an anti-NMDAR1 antibody.

82. A genetic vaccine comprising an antigen and a pharmaceutical acceptable carrier.

83. The genetic vaccine of claim 82, wherein the antigen is selected from the group consisting of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors and transcription factors.

84. The genetic vaccine of claim 83, wherein the antigen is an NMDA receptor.

85. The genetic vaccine of claim 84, wherein the antigen is NMDAR1.

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